

WHAT IS CLAIMED IS:

1. A method of forming a gate in a semiconductor device, the method comprising:
 - forming on a semiconductor substrate a gate oxide layer and a sacrificial layer;
 - selectively etching the sacrificial layer to form a sidewall opening;
 - forming a polycrystalline silicon layer on an area of the gate oxide layer exposed through the sidewall opening and on the sacrificial layer;
 - performing anisotropic etching of the polycrystalline silicon layer such that sidewall gates are formed by remaining portions of the polycrystalline silicon layer on sidewalls of the sidewall opening, a width of the sidewall gates corresponding to a desired width of a gate; and
 - removing the sacrificial layer.
2. A method as defined by claim 1, wherein the sacrificial layer comprises a nitride layer.
3. A method as defined by of claim 2, wherein the nitride layer is removed using a wet etching process.
4. A method as defined by claim 1, wherein the sacrificial layer is removed using a wet etching process.
5. A method as defined by claim 1, wherein anisotropic etching of the polycrystalline layer comprises an etch-back process.
6. A method as defined by claim 1, wherein the width of the sidewall gates is determined by a thickness of the sacrificial layer.
7. A method as defined by claim 1, wherein the width of the sidewall opening formed by selectively etching the sacrificial layer corresponds to a width from one gate to an adjacent gate.
8. A method as defined by claim 7, wherein the sacrificial layer comprises a nitride layer.

9. A method as defined by claim 8, wherein the nitride layer is removed using a wet etching process.

10. A method as defined by claim 7, wherein the sacrificial layer is removed using a wet etching process.

11. A method as defined by claim 7, wherein anisotropic etching of the polycrystalline layer is an etch-back process.

12. A method as defined by claim 7, wherein the width of the sidewall gates is determined by a thickness of the sacrificial layer.